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ABSTRACT

This paper examines several approaches to the study of the foundations of education and rejects all of them. Approaches are classified as "system-adaptive" or "system-reform" according to whether they examine existing educational systems and objectively analyze alternatives or whether they advocate specific new values or, indeed, freedom from all values. The approach recommended by the author is termed "systems-evaluative" or "inquiry-oriented." This approach evaluates the effectiveness of educational systems and their goals in relation to certain defined values, but does not attempt to judge the values. The rationale developed to support this approach includes a short study of the history of scientific method and an explanation of the interdependence of systems. The author concludes with the hope that it is not too late for the foundational studies to become embracive and majestic in support of a national educational and social policy of the future. (RT)

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THE STUDY OF EDUCATION*

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THE STUDY OF EDUCATION

1. Some Alternative Approaches to Foundations of Education

How do and how should educators justify what they believe about education? Educators believe that some problems are more important than other problems. What are the criteria for judging importance? Educators hold certain ideas to be true about culture, man, school-society relations and the learning process. What substantive premises and logical or methodological criteria are used? Can these justificatory principles and procedures be improved?

In explaining the procedures and forces involved in making embracive educational policies, educators refer variously to administrative leadership and good human relations, or economic, political and international factors, or broad cultural drifts and tensions. Some believe that the primary guidelines that should be used at policy-making points are philosophical or ethical. Finally, some speak of the "difficult art of judgment" or the "practical arts" wherein criteria seem to be much vaguer than the criteria governing conclusions in delimited neater disciplines. What are and what should be the relations among diverse disciplines and influences in decision making? Are there transdisciplinary criteria of significance and credibility? Is it reasonable to work toward a unitary theory of social man that might diminish the play of indeterminate or non-rational elements in the formulation of elements in the formulation of educational policy?

Judging from the questions asked, it might be guessed that reason and inquiry are about to be nominated as the pervasive, architectonic means and ends of education. However, there is great force in the argument that national traditions and needs, and, especially in post-industrial society, the resultants of struggles among conflicting political and social movements are much more powerful in education than are the uses of reason. Some would say not only that this must be so but also that it should be so. Schools are instruments, not makers, of society. Social imperatives must be met and social norms are determined not by the schools but by larger social forces. There is something unrealistic, even sickish, in an undue celebration of inquiry at a time when education is faced with problems of modernization in adopting emerging values and meeting social needs. Then, too, some would contend that in a pluralistic and democratic society, neutrality and objectivity require that we restrict ourselves largely to describing the established facts and major theoretical or philosophical alternatives.

At least two model approaches to foundations work seem to be associated with such beliefs. There are endless variations and it is sometimes impossible to place a particular case. One tendency is to take for granted the commonly accepted institutions, policies and practices and to describe them: Here is what the schools do; this is the way our school system developed. Where disagreements exist, the conflicting alternatives may be described. Often, of course, one or another of, say, differing psychological or philosophical positions may be favored. But the usual assumption is that future educators will fit into commonly accepted ways and, where alternatives do exist, they are free to make their own selection.

The second general approach comprises those who tend to favor the newer (and often conflicting) socio-ideological movements and educational developments. Black Studies, student power, alienation in modern society, operant conditioning, ethnosociology, humanistic psychologies and sensitivity training, the technological revolution in education, sociology of the disadvantaged, schools without walls--such topics or developments seem basic, foundational. The study of comprehensive contexts and of general principles--for example, historical and comparative studies of education, or general sociological principles in their application to varied educational problems--may be regarded as irrelevant. Diverse social and educational changes are recommended to promote emerging trends, efficiency, individualism and equality of opportunity, but the stress is not on a comprehensive and critical study of basic principles and alternative policies. Nor, usually, is emphasis placed on making radical structural reforms in society and education. People are to be taught to accept and cooperate with each other and to fit into flitting social patterns and roles.

Let us call both of these general tendencies system-adaptive approaches to foundational work. The expectation is that students will adopt traditional or emerging roles, that they will learn to apply principles to carry out established or new programs and tasks. The "definition of the situation," the roles and rules that are taught, may vary greatly from one instructor to another. But the emphasis is on description or recommendation.

A more or less different approach is represented by a variety of educators who are deeply disturbed by many or most structural features of school and society. They would change large chunks of society and education. Proposals may be rather vague. They might be concerned with establishing the need for societal reforms and for new values that promise to free individuals instead of coercing them into the conforming ways of a competitive and de-humanizing technological society. On the other hand, proposals may be fairly specific, and varied, ranging from educational preparation for socialism and world government to the erasure of compulsory education and of authority based on status and expertise in the ways of a morbid society. Let us classify all such proposals as system-reform approaches.¹ Note that they are similar to at least some system-adaptive views in that they concentrate on recommending certain preferred policies and not on studying and evaluating policies.

Which of these approaches is preferable? Are there other orientations that hold greater promise of promoting the uses of reason in education and minimizing the roles of habituation, of adjustment to uncontrolled social forces, and of despairing reactions to deep-seated ailments? Or are there more defensible "payoff criteria" than those just mentioned?

Considering the tendentious nature of the comments and questions it is undoubtedly no surprise to be informed that neither the ideologically conservative, "neutral" or liberal bents of the system-adaptive approach nor the radical or utopian bents of the system-reform approach are recommended. Some of this work may be useful in a number of ways. But, in general, these approaches do not deal with the foundations--the most basic empirical, logical, and ethical grounds--of education, or they do not study these grounds in the honorific sense of seeking to find out more about them and to improve them.

The recommendation here is that, collectively, foundational studies should be focused on the critical, comparative and comprehensive evaluation of socio-educational systems, educational theories and educational policies. To evaluate a system, theory or policy, one must study what it is in empirical-causal terms--how or why it originated and was developed or accepted, what its structural features are, what its consequences or implications are.² One must understand the material premises and the logical-methodological and ethical principles that serve in studies as directives in searching for, interpreting and accepting evidence, as criteria for selecting and evaluating just certain consequences, and as standards justifying a study, theory or recommendation as being important. To be comparative and comprehensive, studies should search for and evaluate diverse consequences of varied patterns of schooling (different combinations of decision making systems, teaching-learning processes, curricula organizations, personnel qualities, and so on) and of school-society relations in varied cultural and subcultural systems. The specialized abstractions of most foundational disciplines have tended to pull apart theoretically what is integrated causally. As a basis for improving socio-educational policy and educational practice, vigorous efforts should be made to develop more embracive and unified theories.

This program might be called a systems-evaluative or inquiry oriented approach. The primary purpose is not to describe or prescribe operating roles and rules that exist or that should be adopted; it is to critically evaluate sets of educational roles and rules and the criteria used to accept or reject them. As envisioned here, foundational workers contribute to the improvement of educational policies and practices by exploring and improving the grounds used to justify them and by teaching about their findings in a critical and comprehensive manner. The main purpose is not to operate the schools for society but to study socio-educational operations and to contribute to the quality of social intelligence used at a point where society most consciously chooses itself.

To do these things, foundational workers need an inquiry orientation, one that includes inquiry into their own inquiries. To do these things, foundational workers should study and teach about the social conditions that support inquiry and about the possible ways of expanding critical and comprehensive thought throughout the processes of education. The accomplishment of these tasks will require extensive and varied contacts with the practices or data of educational experiences and with those who work in or upon the educational scene.

II. Inquiry Orientation and the Systems-Evaluative Approach

Historically and logically, there has been an intimate relationship between the notions involved in inquiry orientation and systems-evaluation. Among the shared and significant ideas is the belief that, so far as is known, nothing in nature belongs exclusively to any one thing. Objects, properties and events emerge from interactions of yet other "original" materials, but no absolutely terminal or self-acting cause is known. Not everything changes as other things change, nor is everything related to every other thing in every way. But objects and events have their existence and their properties in and because of certain systems of relations with other things and processes. If something attains causal efficacy, it is not because of self-possessed sufficient powers but because of its relations in systems characterized by multiple, interlocking sets of dependency relations.

There is no perfectly isolated or closed system. Systems interweave and impinge on each other. They and their subsystems may be analyzed fruitfully in varied ways. Though changes at certain points may be the focus of attention, such changes cannot be explained merely by the characteristics of other points in the system. The system-dependent characteristics of the part on which attention is focused are themselves factors influencing the outcomes. There is no bifurcation of the "individual" and "society."

In such a world of systems, things often are not what they seem to be. Nor do they seem to be what they can become. By considering embracive, comparative and overlapping contexts, significant relations have been established between formerly conceptually unrelated domains and things--as between time and space, or men and animals, or culture, biochemistry and individual choice. Especially where inquiry has been strongly supported for many years, striking transformations may be made in systems of things and ideas. Direct observation, intuition, common-sense and other context-confined ways of knowing have lost credibility, and validation processes and principles have become increasingly complex. They themselves have become objects of intensive study.

By following out converging and diverging threads of dependency relations, by studying things in different contexts and, at times, by physical manipulation of contexts, large-scale theories, hybrid disciplines, multi-disciplinary studies and new disciplines have been created. The labels of some older disciplines have remained unchanged, but their fabrics of content and method increasingly have threads that lead into other disciplines. A great deal of attention is focused on the establishment of general principles or laws and the development of comprehensive, interconnected systems of theories. The laws of even the most exact sciences do not describe events precisely. A knowledge of the laws by no means assures successful prediction in individual and always contingent cases. This is true especially when the relative stability and isolation of a system are not maintained. Yet these laws and theories are among the very best fruits and seeds of inquiry. Search for them will have disclosed something about the contexts and boundaries in which certain forces may be operative. Within a given framework of evidence, the search will have established something about the theoretically ideal structure of certain dependency relations among events and something about the probability of an actual state of affairs in certain concrete cases, given certain conditions.

In general, the comprehensiveness and interconnectibility of systems of theories are signs of the elimination of parochial, system-limited views that lead nowhere or cannot be verified. They are signs of increase in the ability to understand, interrelate, create and transform objects and events. Yet, being "deep," going beyond observables or providing links among observables, theories remain interpretations, subject to falsification or reinterpretation. They are fragile and improveable in good part because they are fairly precisely structured, comprehensive, interconnected and productive of suggestions about new applications or findings. Thus, they are testable in terms of data and considerations from a wide variety of domains.

Scientific inquiry is itself a developing system which powerfully influences other systems and is powerfully influenced by them. In varied degrees and ways it has been extended to a broadening array of areas. The general principles of methodology have developed in continual interplay with diverse techniques and operations of inquiry in specialized fields. The general principles are indebted to and, in turn, are used as guidelines in quite varied and specific operations that might be involved in the physical manipulation of variables, developmental studies, or studies of the data about and objects in naturally occurring situations.

Of particular importance for present purposes is the general fact that, historically, scientific inquiry has been used to improve rational control over many things but, by and large, not over the basic and relatively unexamined social forces and ideologies which use the fruits of inquiry and define the directions of inquiry. One of the major reasons why bio-social systems throughout the world are in grave and increasing trouble--with nuclear, population and pollution explosions, tensions between rich and poor in domestic and international arenas, generation gaps, inability to control the rates and kinds of uncoordinated changes and their interweaving effects on thought and character--is the relative restriction of competent inquiry by controlling but rationally uncontrolled systems.

The expansion of inquiry orientations in society and education is justifiable in terms of many considerations. Inquiry is eminently useful and practical. The furtherance of inquiry abilities is by no means the only social and educational objective. But the advancement of inquiry provides the greatest potential for achieving other desirable aims, whether these be the teaching or arithmetic or the securing of peace on earth. It promises the greatest possible success in avoiding unpleasant surprises and enhancing the wonderful ability to wonder and be surprised.

The orientation is rich in resources. To critically compare and evaluate truth-claims and programs of action, one must know not only principles of good reason and sound evidence but also the views and programs being evaluated, plus other relevant information. However, the knowledge sought is not a set of statements that close inquiry but the knowing that seeks comprehensiveness, testability and improvement--the kind that is increasingly aware of its grounds and of possible ways to control itself.

The attitudes and ethical qualities associated with this orientation are signally reasonable ones. Among them is the self-control that springs not from internalization of principles and norms but from the ability to reflect constructively about principles and norms. Among them is the freedom that comes from the presence of moral and intellectual alternatives. There are, too, such ethical equivalents of inquiry principles as the impartiality of judgment and equality of consideration among persons that signify responsiveness and the absence of a priori persuasions. There is, finally, the drive of the good citizen to understand and cooperatively control the social and ideological forces which, if unchecked, can destroy reason and all.

It should be noted that if there are no general probability principles describing human behavior, this can be only and tentatively established by a vigorously pursued process of inquiry and not by what today would amount to an argumentum ad ignorantiam. If a theory is considered to be the best available, or if a program is considered more important or urgent than any other, then these judgments can be reasonably warranted only by a process of inquiry. Education must have programs and practical arts. But their justifiability and improbability diminishes to the extent that foundational work is restricted to reportage, the transmission of preferred postures and programs of action, or training in the application of favored conclusions.

III. Foundational Work: Some Criticisms and Some Suggestions

Some characteristics and possibilities of an inquiry approach to foundations of education may be indicated by criticizing a few monoinquiry positions and by providing a few positive suggestions.

Let us take, first, the more or less descriptive approach. In a philosophy course, for example, several philosophical positions and their educational implications may be presented. Some preferred positions might be indicated, but often the possibility of evaluating any philosophical position by a wide variety of other criteria is ignored. Part of our philosophical tradition still clings to the notion that some context-free and ultimate grounds are needed for any process of justification and that, by definition, these ultimate (that is, philosophical) grounds cannot themselves be rationally justified. But there are numerous kinds of strong arguments--derived from mathematics, logic, the methodology of science, the history of science, anthropology and intellectual histories--that could be used to challenge this crucial assumption.

Again, in a text on the historical development of education, one chapter may list a dozen more or less unrelated causes of developments during the Renaissance, a second chapter may trace developments in another period to the work of several educational leaders, and a third chapter may account for recent changes in terms of technological developments. But no attention is paid to how these varied causal accounts are known. No attention is paid to how the history of education might be made today--although there may be a vague, implicit assumption that we are being driven by a technological revolution and that's about all that can be said. Moreover, no question is raised as to why certain things are explained and other things are not explained.

In the reportive or conclusion-loaded style, and particularly if we attend to different kinds of courses or to different units in the hasty-survey course, we often find views that do not fit together, are not connectible, or are even inconsistent--and nothing much may be said about these matters. There may be no connections made between philosophical, psychological, historical and comparative education materials. Anthropological studies of the development of mind in different cultures may suggest something about the influence of culture on personality cognitive style and motivation. On the other hand, some psychological and philosophical materials may suggest that choices are fundamentally psychogenic.

In general, by accepting fragments of uncoordinated and unanalyzed thought, by leaving criterional problems largely unattended, by disregarding inconsistencies and intellectual holes, and by speaking in the language of conclusions and light preferences, the descriptive approach both reflects and contributes to a system that develops niche-filers rather than niche-makers.

With some modifications and additions, the ailments just mentioned can be seen in foundational work which is more energetically directed at transmitting specific doctrines, postures and programs. The drive is to recommend and perhaps make operant a theory or program without serious examination of related or more comprehensive systems of thought or behavior. The aim is to seek confirming evidence within an accepted framework rather than to qualify or falsify what is accepted.

We can mention here only a few examples of some of the broad types of programmatic work that fall in this broad category. One type may be illustrated by educational programs that are developed to promote equalization of educational opportunities. Foundational work may be directed largely or entirely at this objective. Often there is no consideration of such questions as whether the programs, as conducted, also serve less desirable aims. Yet, for example, there is some good reason to think that these programs may help prepare, selectively, people with just certain kinds of personal and social characteristics to meet the requirements--in terms of basic literacy, occupational and social adaptability, contentment, and so on--of a beleaguered technological society, bent on preserving certain threatened but still strong social institutions and norms and on increasing internal harmony, industrial production and military power. Intellectually, these and other considerations could mean that the usual battery of selected sociological and psychological concepts that are used to justify and develop such programs needs to be seen together with a considerable body of other relevant material.

Moving to a related but different dimensions, we may cite the view that judgments such as those involved in the preceding problem--and, indeed, in the choice, organization and interpretation of facts and other materials in any area of study and action--are ultimately "value judgments." For many educators, purpose and value are irreducible notions which explain or justify other notions but cannot themselves be explained or justified. Yet, we do, can and should explain and justify any particular values in many ways--in terms of their origins, compatibility with other values, consequences in operation, clarity, reasonableness, and so on. Any system of values has material premises about causal relations and about the existence of objects (like minds and emotions as self-moving things or as qualities of behavior); it has premises about how we know these things, and it has arguments aimed at justifying its conclusions. Assumptions are made about the importance or lack of importance of opening up the roads to inquiry, including inquiry into its own foundations. All these matters can be rationally evaluated. There are few things more urgently needed than analysis of the complex and preferred cause-effect relations that are sometimes obscurely--and sometimes ceremonially and self-defensively--signified by value statements.

On the other hand, some educators see nothing but facts as they gaze at their doctrines. They disregard the fact that not only is knowledge about something but also it is selected in the light of some values and to serve some purposes. When, for example, causal explanations concerning automobile accidents are sought, we rarely mention the very existence of automobiles because, presumably, we prefer to take their existence for granted. We prefer to manipulate other things such as traffic lights or safety devices. Among the most precious uses of knowledge--but by no means its only precious function--is its use in the development of improved knowledge and values. Perhaps the major thesis of this paper is that the decision to use knowledge in this way is pervaded by complex questions of value and of fact. Problems concerning sociology of knowledge, international relations, economic institutions, political power, science policy, social change and planning, and other topics now inadequately treated in foundational work would be involved in an adequate treatment of our knowledge-value policy.

In addition to the value-fact dichotomy, a bifurcation between what is individual and what is social is found in diverse forms and in various theories. Many psychological and philosophical views and some sociological and historical doctrines apparently feel the need to select either the individual or the social as the locus of value or causal efficacy. Either politically radical or conservative socio-educational views may be grounded either on the supremacy of the individual or the supremacy of the social.

But these ground are questionable. Taking just one small set of considerations into account,³ we may note that where society is quite stable and individual experiences are fairly uniform, a sociological theory might serve as an adequate guide to the variables studied by a psychological theory, and vice versa. Analysis of behavior in terms of "external" factors, such as role-requirements, social class and social norms, might approximate the results obtained by analysis in terms of such "internal" conditions as drives, traits, abilities and so on. For certain limited purposes and under certain limited conditions, just one of the disciplines might be sufficient--just as one can safely enough relate the volume of a gas only to changes in pressure provided that a number of conditions, like temperature and the absence of occlusions in the container, remain unchanged. But when social contexts are complex and changing, more comprehensive and integrated theories are needed. A psychological theory which makes predictions only in terms of internal traits--like security, interest and the command of a sequence of responses adequate to recurrent and closed systems--would have to contend with wide variations in social conditions, and the internal factors may no longer be adequate or supported. Security may be converted into fear or may lose its grounds in "reality" and become psychologically transformed into a defensive mechanism. The formerly correct response may become irrelevant, wrong, or an obstacle to understanding new relations. Conversely, if sociological theory works only with norms and role-requirements, it, too, is likely to be inadequate. It will be faced with great variations in individual experiences and in the extent and manner of internalization of norms.

Again, and to extend the general point beyond the confines of one culture, if use is being made of Piaget's views of cognitive development, views established largely by studies of middle-class children in Western culture, it would be desirable to note the many problems that arise and the numerous qualifications that seem to be suggested when his conclusions are checked by studies of cognitive development and style in diverse cultures.⁴

In brief, then, reliability of prediction within a limited context of considerations is not necessarily a good measure of validity, and, at least in some cases, greater validity is attainable by connecting socio-cultural and psychological terms.

Part of what is being claimed is that no discipline is able to validate its truth-claims by its own resources. Even more strongly, it is claimed that no discipline contains or is connected with enough warranted premises to make, by itself, justified recommendations for educational policies and programs.

Because this is so, we stand in great need of more comprehensive and inter-connected perspectives as a foundation for more rational educational policies. Significant moves in this direction can be made and, indeed, some moves are beginning to be made. The foundational areas study similar or overlapping kinds of behavior. In varied ways of contexts they study people making decisions, emoting, reasoning, communicating, using power to attain goals, and developing new beliefs and patterns of behavior. Connections can be sought and established between diverse kinds of studies and bodies of knowledge. Many of the new behavioral concerns--like decision theory, communication theory, and systems theory--provide principles and modes of analyses that are not confined to any one or two disciplines. To develop more comprehensive and interconnectible theories, deliberate search must be instituted for cumulative and converging evidence relating to hypotheses that make reference to a variety of theoretical and observational terms in a variety of domains or conditions.

It is not too soon--let us hope that it is not too late--for perspectives and purposes in foundational studies to become embracive and majestic. If educators wish to achieve certain large sets of educational conditions, then there must be social control of pervasive forces and of rates and kinds of changes that affect the quality of education. Thus, educational policy and national policy and, increasingly, the policies of nations must be developed together. Long range perspectives, embracive ideals and the powerful cultural and ideological forces that now shape education must be kept together in mind. Otherwise we will not be able to identify what it is that we need to know now. Nor will we be able to invent a bit of the future. We will merely meet the future.

One of the nodal problems in education today is the lack of a unitary theory of knowledge. It is often argued, for example, that historians and philosophers use ways and criteria of knowing that are radically different from those used by the social scientists. Indeed, the common division between humanistic and behavioral studies often suggests not only the value-fact dichotomy but also basic differences in ways of knowing. Moreover, some scholars hold that the methodology of social science must be quite different from that of the natural sciences.

A strong argument could be made to the effect that while specific techniques, instruments and research design possibilities do vary greatly among the disciplines, the same basic logical and methodological principles can and should be used in all studies that make truth-claims. All such studies can and should use the same basic principles of adequate definition, sound reasoning, sampling, assessing relations between theoretical and observational terms and between evidence and conclusions. But this is not

an occasion for developing this argument. It is an occasion for suggesting that this basic problem is relevant to all aspects of educational work, that it receives far too little attention, and that it requires interdisciplinary consideration. A fairly safe guess can be made that some of the major differences in reactions to proposals made in this paper will be based, in some good measure, on differences in assumptions relating to this question. However, to see this problem as mainly an academic issue is to stop short of fuller significance. The disciplines have historical origins and their conflicting claims to and about knowledge often are intimately related to changes, cleavages and conflicts in the social order. Hopefully, an inquiry orientation or something like it can be supported on a number of different grounds.

We want peace, love, health and many other things. We want to know why we live, love and believe as we do--and whether we should do as we do. We need a new social philosophy to express new and common beliefs and hopes. When, for example, in medical, genetic, psychological and legal terms the meaning of being an individual is increasingly a social decision rather than a "natural" phenomenon, then we need to develop a social philosophy based on something other than the doctrines of individualism and natural rights of our recent past. We need to grab hold of our collective selves and control the racing and rocking conditions of modern life that make feverish and frightening much of the style of our life and thought. So that we may legitimate and realize our wants, we need to evaluate socio-educational systems to a great extent in terms of their contribution to the amount and quality of reason in nature.

An effective evaluation must move back and forth between vast and distant social areas and the major problems, policies and practices of education. The financial support of education, the problems of urban education, the control of education and other issues are studied properly when studied in the light of more comprehensive social and intellectual problems. Standard and emerging educational practices need critical evaluation. A small sample of these practices might include the following items: the permeating dominance of truth-thinking criteria over critical thinking criteria--in standardized and teacher-made tests, I. Q. tests, textbooks, criteria of effectiveness used in research on teaching, and so on; the criteria of normality used in many tests of personality; the compartmentalization of knowledge into self-contained fields, packages and programs; the presence of courses in creative arts when compared with, for example, the absence of courses in creative politics; the increasing interest in performance contracting, voucher systems and "accountability."

These and other features of schooling can be evaluated in terms of touchstones suggested by an inquiry orientation. The effectiveness of reading techniques or of decision making processes can be appraised in terms of their contributions to inquiry abilities. Psychological doctrines can be judged not only in terms of their contributions to feelings of security or to effective learning of chains of responses within closed systems of thought, but also by their contributions to the ability to have some healthy doubts about oneself and the ability to have second thoughts about systems of ideas.

The development of educational programs and policies involves selection and choice. Unless there is a unitary theory of values based upon reason, the criteria of selection stem from unexamined tradition, politics (in the "evil" sense), rhetoric or other non-rational sources. In any event, structures and channels need to be developed so that students of education, teachers, administrators, citizens and public officials can consider problems of criteria, priorities and means in education. It should be understood, of course, that the focal questions for foundational workers are those concerning the identification, exploration and improvement of the grounds of educational policy. Any specific responses to these questions--such as the responses in this paper--are but data for collective analysis.

There is a last but not least point. Those who study education need broad and intimate contact with the concreta, the data and the experiences, of education. No conclusions about education can be drawn from only the general premises of any field of study. It takes much more than knowledge of general psychology, economics, philosophy or history to say something reasonable about education. Moreover, comprehensive and integrated empirical theories are theories about extensive and interrelated sets of factors, and the fitness of theoretical statements that may be used is not a self-evident matter. This fitness cannot be checked without a battery of empirically oriented and mediating ideas that connect theoretical statements to a variety of educational events or data. In this process one can expect some revisions in both theoretical and observational statements. As a field of study, education can both borrow from and contribute to general premises.

Making general statements and making vague statements are two very different things. General statements can be quite precise and strikingly illuminating. Vague statements are indeterminate and murky. They often seem to tell of important matters and, unfortunately, we often think we understand what is obscure. Indeterminacy is not so much a personal ailment as it is a reflection of the present state of our knowledge about man and society. But all of us can make personal efforts to seek demarcations, exclusions, sub-categorizations. We need more precisely focused work in foundational studies. For example, we need not only general histories with consciously selected and related themes but also histories of the development of this or that discipline as seen from a number of significant perspectives.⁵

One way to move toward a more precise and relevant educational focus is through selected and varied immersions in the data and experiences of the practical arts of education. The institutional press of the teacher's daily life supports or compels thinking in terms of the "here and now" and of single, simple causes.⁶ We can work more effectively in connecting what is possible and theoretical with what is actual and psychological if we are more familiar with what is actual and psychological. If we want to suggest something about the limitations involved in "learning from personal experience," it would be useful to know something about that experience. This may help us in teaching and learning. Both those who largely study education and those who largely practice the arts of education are influenced strongly by their traditions, territorial protectionism and ideological fashions, and the resultants of these ailments are sometimes confused with obvious truths. Removal or decrease of some of the dichotomizing differences between the concerns and experiences of both groups would be all to the good.

FOOTNOTES

¹ Some proposals in this category--such as those concluding that all social direction should be removed and that each individual should be encouraged to "become what he is"--could be seen as system-abandonment programs. However, it might be argued that in effect or in principle they are either system-adaptive or system-reform views. In any event, we need not multiply distinctions for present purposes.

² This way of combining talk about theories and about things, like educational systems, may seem strange. It is done deliberately as a reminder that things are known by way of theory and theory is accredited by way of known things and other theory.

³ For an elaboration of this analysis, see J. Milton Yinger, "Research, Implications of a Field View of Personality," American Journal of Sociology, 68, 1963, pp. 580-92.

⁴ See, for example, Patricia M. Greenfield and Jerome S. Bruner, "Culture and Cognitive Growth," International Journal of Psychology, 1, 1966, pp. 89-107; D. R. Price-Williams, "A Study Concerning Concepts of Conservation of Quantities Among Primitive Children," Acta Psychologica, 18, 1961, pp. 297-305.

⁵ A fascinating and suggestive example of the history of a discipline is Raymond D. Wilder, Evolution of Mathematical Concepts: An Elementary Study (New York and London: John Wiley, 1968).

⁶ See Philip W. Jackson, Life in Classrooms (Holt, Rinehart and Winston, Inc., 1968).